MULTIMEDIA UNIVERSITY

STUDENT IDENTIFICATION NO

MULTIMEDIA UNIVERSITY

FINAL EXAMINATION

TRIMESTER 2, 2016/2017

BBF3124 – FINANCIAL DERIVATIVES

(All sections / Groups)

28 FEBRUARY 2017
2.30 p.m – 4.30 p.m
(2 Hours)

INSTRUCTIONS TO STUDENT

1. This Question paper consists of 3 pages with 5 Questions only.

2. Attempt **ALL THREE** questions in PART ONE and **ONLY ONE** question from PART TWO. All questions carry equal marks and the distribution of the marks for each question is given.

3. Please write all your answers in the Answer Booklet provided.

PART 1: ANSWER ALL THREE (3) QUESTIONS (25 MARKS EACH)

QUESTION 1

What should be the appropriate hedging strategy in the following scenarios if calls and puts are available on the respective underlying asset? Please justify how your chosen strategies will mitigate the inherent risks in each given scenario.

a. An Indonesian bank has gone into a short position in a forward contract on Malaysian Ringgit with its customer and wants to hedge its exposure.

(7 marks)

b. A rice exporter anticipates receiving payment in Euro in 3 months.

(6 marks)

c. A jeweller anticipates having to acquire gold for his inventory in 3 months.

(6 marks)

d. A large scale farming entity expects that interest rates on its floating rate short term borrowing will increase in 3 months time.

(6 marks)

(Total: 25 marks)

QUESTION 2

You have been tracking the performance of Daya Berhad and feel moderately bullish about its performance over the next 30 days. At best, the stock price could go up moderately but, buying the stock is risky since the worse case scenario may cause you to be hurt by the downfall. Assume that your only choice is to use options to maximize the upside from any price rally and minimize the downside should the reverse happen.

a. What should be your general strategy in the above situation? How would you describe the risk profile of such strategy?

(5 marks)

b. Show how you could achieve your objective by using:

i. Calls only (10 marks)

ii. Puts only (10 marks)

The following information is furnished for you to accomplish part (b).

Continued...

Your broker has provided you with the following 30 days options quotations to help you on the above task:

Daya Bhd: RM 9.00 Call@ RM 0.20
Daya Bhd: RM 10.00 Call@ RM 0.10
Daya Bhd: RM 9.00 Put@ RM 0.05
Daya Bhd: RM 10.00 Put@ RM 0.28

Tabulate and illustrate (graphically) the results if stock price at maturity ranges between RM 8.00 and RM 11.50 at RM 0.50 intervals.

(Total: 25 marks)

QUESTION 3

a. Explain the novation principle.

(8 marks)

b. Provide a comparison of trading methods between the Open Outcry and Computerized Systems.

(13 marks)

c. Under what circumstances might an individual trader prefer an OTC instrument to an exchange traded one?

(4 marks)

(Total: 25 marks)

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PART 2: ANSWER ONE (1) QUESTION ONLY (25 MARKS)

QUESTION 4

Assume you have all the required information to use BSOPM. Your calculation proved that there is a violation in the quoted option price.

a. If the call option is underpriced, how would you arbitrage?

(7 marks)

b. If a put option is overpriced, how would you arbitrage?

(6 marks)

c. If the call option is overpriced, how would you arbitrage?

(6 marks)

d. What factor must you reconsider before deciding to arbitrage? Is arbitrage always possible?

(6 marks)

(Total: 25 marks)

QUESTION 5

You are required to estimate the value of a call option using Binomial Option Pricing Model (BOPM) based on the following information:

i. The underlying stock is currently selling at RM 12.00
ii. The call option on the stock has RM 12.00 exercise price and one year maturity
iii. The underlying stock can change price twice during the one year
iv. The stock price can either go up or down by a fixed 12%
v. The probability of an up or down is an equal 50%
vi. The risk free interest rate is 6% per annum.

a. Diagrammatically, illustrate the stock price movements and corresponding payoff.

(13 marks)

b. Calculate the call value.

(12 marks)

(Total: 25 marks)

End of Paper